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Volume ~~Bulletins 152-168~~

Source

Received June 1915 (Neal)

Cost

Accession No. 3417 Ex. S.

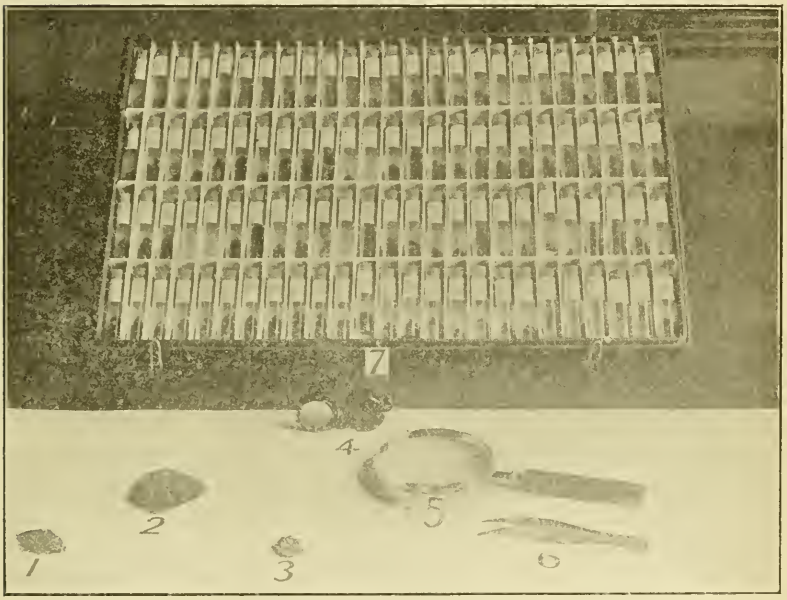
Bulletin 164 February, 1913

NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF AGRONOMY

Results of Seed Tests

For 1912

MADE FOR THE
STATE BOARD OF AGRICULTURE



BY F. W. TAYLOR

NEW HAMPSHIRE COLLEGE
OF
AGRICULTURE AND THE MECHANIC ARTS,
DURHAM, N. H.

NEW HAMPSHIRE COLLEGE OF AGRICULTURE AND THE MECHANIC ARTS.

NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

DURHAM, N. H.

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The bulletins of the Experiment Station are published at irregular intervals and are sent *free* to all residents of New Hampshire requesting them.

SEED TESTS

Made July 1, 1911, to December 1, 1912.

The provisions of the Pure Seed Law enacted by the General Court in 1909 require the publication annually of a bulletin by the New Hampshire Experiment Station of the results of all seed tests made officially during the previous year. The administration of said law is in the hands of the secretary of the State Board of Agriculture, who has appointed the writer, agronomist of the experiment station, as his regular agent for making all tests and analyses in this state.

During the year only fifty-five samples of seed were examined as against seventy-eight for the year preceding and two hundred and thirty-eight for the year preceding that. This very small number of tests for as much seed as is sold in the state indicates one of three conditions: (1) That the seed dealers are buying their seeds from outside parties upon a purity and germination test guarantee; (2) that the dealers are making their own tests and basing their guarantees upon them; or (3) that the farmers are buying seeds without any guarantee of their purity and vitality.

Of the few samples tested the analytic agent has no knowledge that seeds which these samples represented were offered for sale in the state. Quite frequently samples are sent in for inspection by dealers before purchase in lot or bulk is made, and if the test shows the seeds to be of inferior quality it is presumed the seeds are not purchased. Individuals sometimes ask for a report upon the quality of a given sample and make the purchase of seed for their own use upon the basis of said report. It should not, therefore, be understood that all of the seeds represented by the samples inspected were offered for sale by the parties for whom the inspection was made.

The writer wishes to acknowledge his appreciation of the efficient work of Professor Frank App, who made the tests and examinations of the samples herewith reported.

SEED EXAMINATION, 1912.

Sample number.	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound.	Per cent. of Pure seed.	Per cent. of Weed seed.	Per cent. of other Grass seeds.	Per cent. of Inert Matter.	Per cent. of Germination.
319	**Red clover,** (*Choice*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Field dodder, 454; Green foxtail, 546; Lamb's-quarters, 91; Ox-eye daisy, 546; Rib-grass, 3,731; Selfheal, 91; Sorrel, 91; Yellow trefoil, 91.	95.9	1.3	.....	3.8	86.5
320	**Red clover,** (*Pan-American*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Canada thistle, 91; Dock, 182; Field dodder, 273; Green foxtail, 546; Lamb's-quarters, 91; Rib-grass, 1,001; Sorrel, 273; Timothy, 273.	97.7	.6	trace	1.7	90.5
321	**Timothy,** (*Choice*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Alsike clover, 2,270; Canada thistle, 227; Five finger, 2,043; Kentucky bluegrass, 45,400; Pepper-grass, 6,180; Red clover, 681; Sorrel, 454; White clover, 681; Plantain, 1,589.	92.0	.6	1.7	5.7	70.0
322	**Redtop,** (*Fancy*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Yarrow, 5,448.	96.0	.4	.....	3.6	85.5
323	**Alsike clover,** (*Fancy Export*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Dock, 227; Redtop, 227; Sorrel, 454; Timo-thy, 227.	98.4	trace	trace	1.6	91.0
324	**Alsike clover,** (*Pan-American*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Canada thistle, 227; Docks, 454; Lamb's quarters, 227; Rib-grass, 1,816; Sorrel, 6,583; Yel-low trefoil, 451; Plantain, 1,816.	90.8	1.5	5.2	2.3	76.5
325	**Timothy,** (*Pan-American*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Dec. 15, 1911. Alsike clover, 227; Green foxtail, 227; Ken-tucky bluegrass, 227; Peppergrass, 451; Sorrel, 681.	99.6	trace	trace	.3	96.0
326	**Timothy,** (*Choice*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Alsike clover, 1,135; Kentucky bluegrass, 3,859; Rib-grass, 227; Sorrel, 227.	98.6	trace	trace	1.0	93.5
327	**Timothy,** (*Strictly Prime*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Dec. 15, 1911. Alsike clover, 2,724; Canada thistle, 227; Chickweed, 681; Kentucky bluegrass, 20,884; Pep-pergrass, 2,497; Red clover, 1,816; Rugel's plan-tain, 227; Sorrel, 2,270.	95.7	.9	1.3	2.2	95.5
328	**Alsike clover,** (*Choice*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Canada thistle, 227; Chickweed, 3,178; Docks, 1,362; Kentucky bluegrass, 4,086; Ox-eye daisy, 227; Red clover, 8,853; Rib-grass, 2,497; Sorrel, 11,-123; Timothy, 73,548; Yellow foxtail, 454; Yellow trefoil, 454.	86.9	2.2	8.2	2.8	81.0
329	**Timothy,** (*Gold Medal*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Alsike clover, 454; Dock, 227; Peppergrass, 227.	99.7	trace	trace	.3	95.5
330	**German Millet**..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Alsike clover, 273; Crabgrass, 1,547; Timo-thy, 91; Miscellaneous, 273.	99.6	.2	trace	.1	94.5
331	**Redtop,** (*Strictly Prime*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Timothy, 466,712; Five Finger, 7,264.	71.4	trace	23.6	4.8	52.5
332	**Redtop,** (*Prime*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Dec. 15, 1911. Peppergrass, 908; Red clover, 908; Timothy, 562,960; Five Finger, 54,480.	62.0	1.4	26.0	10.6	63.0

SEED EXAMINATION, 1912.—*Continued.*

Sample number.	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound.	Per cent. of Pure seed.	Per cent. of Weed seed.	Per cent. of other Grass seeds.	Per cent. of Inert Matter.	Per cent. of Germination.
333	**Hungarian Millet**..... .... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Redtop, 182; Timothy, 273; Common millet, 91; Cleavers, 273; Miscellaneous, 91.	99.7	trace	trace	trace	94.0
334	**Redtop,** (*Choice*)..... ..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Oct. 27, 1911. Timothy, 429,484; Five Finger, 4,540.	75.4	trace	19.8	4.2	47.0
335	**Bluegrass,** (*Fancy Canadian*)..... ..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Nov. 23, 1911. Alsike clover, 4,540; Chickweed, 908; Sorrel, 3,632; Timothy, 53,572; Five Finger, 3,632.	86.4	trace	2.6	11.0	18.0
336	**Bluegrass,** (*Fancy Kentucky*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Nov. 23, 1911. Redtop, 908; Pennyroyal, 908; Smartweed, 1,816.	91.0	trace	trace	9.0	26.0
337	**Clover,** (*Eureka*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Nov. 23, 1911.	99.8	.....	.....	.2	95.5
338	**Timothy,** (*Pan-American*) ..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Dec. 1, 1911. Alsike clover, 227; Green fox-tail, 227; Kentucky bluegrass, 227; Pig-weed, 227.	99.5	trace	trace	trace	97.0
339	**Redtop,** (*Fancy*)..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Dec. 14, 1911. Rugel's plantain, 908.	96.8	trace	trace	3.2	95.0
340	**Timothy,** (*Brandon*) ..... Holbrook Grocery Co., Keene, N. H. Feb. 2. Old Witch grass, 227; Ox-eye daisy, 457; Five Finger, 26,559; Redtop, 3,178; Rugel's plantain, 227; Shepherd's Purse, 31,099; Vervain, 1,816; Sedge, 1,135; Brown-eyed Susan, 908; Miscellaneous, 1,589.	88.2	5.3	trace	6.5	92.5
341	**Timothy,** (*Middlebury*)..... Holbrook Grocery Co., Keene, N. H. Feb. 2. Lamb's-quarters, 227; Ox-eye daisy, 1,356; Five Finger, 2,260; Red clover, 679; Redtop, 90,400; Sorrel, 2,486; Sedge, 1,230; Black-eyed Susan, 452; Miscellaneous, 679.	94.4	1.2	2.7	1.7	92.5
342	**Clover,** (*Vula*) ..... Whitney-Eckstein Seed Co., Buffalo, N. Y. Feb. 2. Catchfly, 272; Docks, 90; Rib-grass, 452.	97.9	.3	.....	1.8	.....
343	**Timothy.** (*White Mountain*) ..... Holbrook Grocery Co., Keene, N. H. Feb. 26.	99.9	.....	.....	.1	97.0
344	**Red clover,** (*White Mountain*)..... ... Holbrook Grocery Co., Keene, N. H. Mar. 2, Sorrel, 182.	99.5	trace	.....	.5	93.0
345	**Peas,** (*Yellow*)..... ..... Holbrook Grocery Co., Keene, N. H. Mar. 2.	100.0	.....	.....	.....	98.0
346	**Peas,** (*Canada Field*)..... C. L. Jenness, Dover, N. H. Mar. 2.	97.5	.....	.....	2.5	98.0
347	**Red clover,** (*Eureka*) ..... C. L. Jenness, Dover, N. H. Mar. 30. Alsike clover, 364; Green fox-tail, 454; Kentucky bluegrass, 91; Rib-grass, 1,090; Sorrel, 91; Timothy, 364.	97.2	.4	.1	2.3	89.0
348	**Timothy,** (*No. X4*) ..... Holbrook Grocery Co., Keene, N. H. April 8. Black Mustard, 1,816; Chess, 4,540; Old Witch grass, 681; Ox-eye daisy, 4,540; Sedge, 681; Five Fingers, 5,675; Redtop, 19,295; Selfheal, 681; Sorrel, 12,485; White clover, 2,043; Miscellaneous, 4,540.	90.7	3.1	1.7	4.6	90.0
349	**Alfalfa,** (*Clover*)..... Holbrook Grocery Co., Keene, N. H. April 9.	.....	.....	.....	.....	96.5
350	**Barley,** (*Six-rowed*)..... Gates & Moore, Lisbon, N. H. April 19. Oats, 198.	98.0	.....	.6	1.4	73.0

SEED EXAMINATION, 1912.—*Continued.*

Sample number.	Kind of Seed, Sender, Date of Report, and Kind and Number of Foreign Seeds found in One Pound.	Per cent. of Pure seed.	Per cent. of Weed seed.	Per cent. of other Grass seeds.	Per cent. of Inert Matter.	Per cent. of Germination.
351	**Oats,** (*No. 1 White Reed*) Gates & Moore, Lisbon, N. H. April 19. Wheat, 18.	99.6	.....	trace	.4	96.0
352	**Oats,** (*Elwood's*) Gates & Moore, Lisbon, N. H. April 19. Wheat, 36.	99.2	.....	.5	.3	97.5
353	**Oats,** (*F. J. F.*) Holbrook Grocery Co., Keene, N. H. April 19.	.....	.....	.....	.....	29.0
354	**Oats** E. C. & W. L. Hopkins, Greenfield, N. H. May 8.	.....	.....	.....	.....	90.0
355	**Oats,** (*White Mountain*) Holbrook Grocery Co., Keene, N. H. May 4.	99.9	.....	.....	.1	97.5
356	**Millet,** (*Japanese*) H. E. Hanson, Rockingham, N. H. May 27.	.....	.....	.....	.....	91.0
357	**Timothy** The Albert Dickinson Co., Chicago, Ill, June 13. Alsike clover, 681; Sedge, 454; Peppergrass, 227; Redtop, 227; Sorrel, 227.	99.5	.1	.1	.3	92.0
358	**Clover** The Albert Dickinson Co., Chicago, Ill. June 13. Bracted plantain, 182; Rib-grass, 182; Rugel's plantain, 273; Sorrel, 637.	97.8	.4	.....	1.8	94.0
359	**Alfalfa** The Albert Dickinson Co., Chicago, Ill. June 13. Canada thistle, 91; Bull thistle, 91.	97.2	trace	.....	2.8	98.0
360	**Millet,** (*Common*) The Albert Dickinson Co., Chicago, Ill. June 13. Lady's Thumb, 455; Lamb's-quarters, 8,918; Pigweed, 637; Sorrel, 91; Miscellaneous, 637.	98.1	1.9	.....	trace	92.5
361	**Orchard grass** The Albert Dickinson Co., Chicago, Ill. June 13.	76.5	.....	.....	23.5	60.0
362	**Kentucky bluegrass** The Albert Dickinson Co., Chicago, Ill. July 10. Peppergrass, 454; Red clover, 454.	96.9	trace	trace	3.1	6.0
363	**Corn,** (*White Dent*) Joseph Saladino, Orford, N. H. July 19.	.....	.....	.....	.....	75.0
364	**Corn,** (*Yellow Dent*) Joseph Saladino, Orford, N. H. July 19.	.....	.....	.....	.....	57.0
365	**Redtop,** (*No. 1*) George H. Brown, Manchester, N. H. Aug. 1.	.....	.....	.....	.....	44.0
366	**Redtop,** (*No. 2*) George H. Brown, Manchester, N. H. Aug. 1.	.....	.....	.....	.....	38.0
367	**Timothy,** (*No. 1*) George H. Brown, Manchester, N. H. Aug. 1.	.....	.....	.....	.....	92.5
368	**Timothy,** (*No. 2*) George H. Brown, Manchester, N. H. Aug. 1.	.....	.....	.....	.....	91.0
369	**Red clover,** (*No. 1*) George H. Brown, Manchester, N. H. Aug. 1.	.....	.....	.....	.....	95.5
370	**Red clover,** (*No. 2*) George H. Brown, Manchester, N. H. Aug. 1.	.....	.....	.....	.....	96.0
371	**Corn** D. M. Hadley, Dunbarton, N. H. Sept. 24.	.....	.....	.....	.....	61.0
372	**Corn,** (*Sanford*) Holbrook Grocery Co., Keene, N. H. Nov. 4.	.....	.....	.....	.....	61.0

SUMMARY TABLE, SHOWING THE KINDS OF FOREIGN SEEDS FOUND IN SAMPLES EXAMINED IN 1912 AND THE NUMBER OF SAMPLES IN WHICH THEY WERE FOUND.

Names of Foreign Seeds.	Names of Samples Examined.								
	Red Clover.	Alsike Clover.	Alfalfa.	Timothy.	Redtop.	Blue Grass.	Millet.	Oats.	Barley.
Number of Samples Examined.	7	3	1	11	5	3	3	3	1
Alsike clover	1	..	..	7	..	1	1	..	..
Black-mustard	..	..	..	1	..	..	..	..	..
Bracted plantain	1	..	..	..	..	..	..	..	..
Brown-eyed Susan	..	..	..	2	..	..	..	..	..
Bull thistle	..	..	1	..	..	..	..	..	..
Canada thistle	1	2	1	2	..	..	..	..	..
Catchfly	1	..	..	..	..	..	..	..	..
Chess	..	..	..	1	..	..	..	..	..
Chickweed	..	1	..	1	..	1	..	..	..
Cleavers	..	..	..	..	..	..	1	..	..
Crab-grass	..	..	..	..	..	..	1	..	..
Docks	2	3	..	1	..	..	..	..	..
Field dodder	2	..	..	..	..	..	..	..	..
Five-finger	..	..	..	4	3	1	..	..	..
Green fox-tail	3	..	..	2	..	..	..	..	..
Kentucky bluegrass	1	1	..	5	..	..	..	..	..
Lady's thumb	..	..	..	.	..	..	1	..	..
Lamb's quarters	2	1	..	1	..	..	1	..	..
Oats	..	..	..	..	..	..	..	..	1
Old witchgrass	..	..	..	2	..	..	..	..	..
Ox-eye daisy	1	1	..	3	..	..	..	..	..
Pennyroyal	..	..	..	..	..	1	..	..	..
Peppergrass	..	..	..	5	1	1	..	..	..
Pig-weed	..	..	..	1	..	..	1	..	..
Plantain	..	1	..	1	..	..	..	..	..
Red clover	..	1	..	4	1	1	..	..	..
Redtop	..	1	..	3	..	1	1	..	..
Rib-grass	5	2	..	1	..	..	..	..	..
Rugel's plantain	1	..	..	2	1	..	..	..	..
Sedge	..	..	..	4	..	..	..	..	..
Selfheal	1	..	..	1	..	..	..	..	..
Shepherd's purse	..	..	..	1	..	..	..	..	..
Sorrel	5	3	..	7	..	1	1	..	..
Timothy	2	2	..	..	3	1	2	.	..
Vervain	..	..	..	1	..	..	..	..	..
Wheat	..	..	..	..	..	..	..	2	..
White clover	..	..	..	2	..	..	..	..	..
Yarrow	..	..	..	..	1	..	..	..	..
Yellow fox-tail	..	1	..	..	..	..	..	..	..
Yellow trefoil	1	2	..	..	..	..	..	..	..
Miscellaneous or unknown	..	..	..	3	1	1	3	..	..

TABLE SHOWING RESULTS OF TESTS AND EXAMINATION OF SAMPLES OF SEEDS RECEIVED FROM JULY 1, 1911, TO DECEMBER 1, 1912.

Kind of Seed.	Total number of samples received.	For purity test.	For germination.	Purity Test.										Germination Test.			
				Pure Seed.				Foreign Seed.			Inert Matter.						
				Highest per cent.	Lowest per cent.	Average per cent.	Standard per cent.	Highest per cent.	Lowest per cent.	Average per cent.	Highest per cent.	Lowest per cent.	Average per cent.	Highest per cent.	Lowest per cent.	Average per cent.	Standard per cent.
Alfalfa	2	1	2	97.2	97.2	97.2	98.	.0	.0	.0	2.8	2.8	2.8	98 0	96 5	97.3	88.
Alsike clover	3	3	3	98.4	86.9	92.0	95.	10 4	.0	5.7	2.8	1.6	2.2	91.0	76.5	82 8	78.
Barley	1	1	1	98.0	98.0	98 0	99.	0 6	.6	0 6	1.4	1.4	1.4	73 0	73 0	73 0	93.
Bluegrass (Canada)	1	1	1	86.4	86.4	86.4	96.	2.6	2.6	2.6	11.0	11.0	11.0	18.0	18.0	18.0	48.
Bluegrass(Kent'ky)	2	2	2	96.9	91.0	94.0	90.	.0	.0	.0	90.0	3.1	6.1	26.0	6 0	16.0	48.
Corn (field)	4	..	4	....	....	....	....	....	....	....	....	....	....	75.0	57 0	64.3	93.
Millet	4	3	4	99.7	98.1	99.1	99.	1.9	.0	0.7	0.1	.0	.0	94.5	91 0	93.0	88.
Oats	5	3	5	99.9	99.2	99 6	99.	0.5	.0	.0	0.4	0.1	0 3	97.5	29.0	82.0	93.
Orchard grass	1	1	1	76.5	76 5	76.5	95.	.0	.0	.0	23.5	23.5	23.5	60.0	60.0	60.0	90.
Peas	2	2	2	100.0	97 5	98.8	99.	.0	.0	.0	2.5	.0	1.3	98.0	98.0	98.0	96.
Red clover	9	7	8	99.8	95.9	98.1	98.	1.3	.0	0.4	3.8	0.2	1.7	96.0	86.5	92.5	88.
Redtop	7	5	7	96.8	62.0	80.3	95.	27.4	.0	14.1	10 6	3.2	5.3	95.0	38.0	60 8	78.
Timothy	13	11	13	99.9	88.2	96.2	98.	5 3	.0	1.6	6 5	.0	2.1	97.0	70.0	92.2	88.
Total	54	40	53														

Average Number of Seeds in One Pound of Pure Seed.

Kentucky Bluegrass	2,400,000
Orchard Grass	579,000
Redtop	6,030,000
Timothy	1,170,000
Alsike Clover	707,000
Red Clover	279,000
White Clover	740,000
Alfalfa	209,000

Note.—The number of seeds per pound may vary 20 per cent. either way, depending on the proportion of small and large seeds.

A comparison of the average per cent. of purity and vitality of the seeds tested this year with those tested last year shows that a better quality of seeds are now on the market. In all of the seeds tested except corn and oats the average of germination was higher. The average purity of all seeds except alsike clover, redtop and timothy was also slightly higher last year. No samples of very dirty or foul seed were inspected, although a greater variety of weed seeds was found than last year. Two or three samples of redtop were badly mixed with timothy which lowered their purity percentage and therefore their value. Such mixtures, however, are not considered injurious.

A considerable quantity of poor seed corn was on the market a year ago, owing to the poor corn season of the year previous. Some farmers bought this seed without a germination guarantee, and after securing a very poor stand sent in a sample of the seed for testing. The farmer found out his trouble too late, however. The conclusion seems to be, therefore, that the quality of our seeds is gradually improving and that the farmer can get good seed if he insists upon it.

THE TEXT OF THE LAW

STATE OF NEW HAMPSHIRE.

IN THE YEAR OF OUR LORD ONE THOUSAND NINE HUNDRED AND NINE.

HOUSE BILL . . . . . NO. 396.

AN ACT

To Regulate the Sale of Agricultural Seeds.

Be it enacted by the Senate and House of Representatives in General Court convened:

SECTION 1. Every lot of agricultural seeds, including seeds of cereals, grasses, forage plants, vegetables, garden plants, and white pine trees, but not including those of other trees, shrubs, and ornamental plants, which is sold, offered, or exposed for sale for seed in bulk or package of one pound or more, within this state, shall be accompanied by a plainly written or printed guarantee, stating first its percentage of purity from foreign seeds and other matter, and second, its percentage of vitality.

SECT. 2. Sellers or dealers in seeds may base their guarantees upon tests or analyses conducted by themselves, their agents, or by the secretary of the State Board of Agriculture or his agents, *provided* that such tests or analyses shall be made in such a manner and under such conditions as the said secretary may prescribe.

SECT. 3. The results of all tests or analyses of seeds made by the said secretary, together with the names and addresses of the persons from whom the samples of seed were obtained, shall be published annually in a bulletin by the New Hampshire College Experiment Station, and biennially in the report of the State Board of Agriculture. The said secretary shall also publish from time to time in the quarterly report of the State Board of Agriculture equitable standards of purity and vitality, together with such information concerning agricultural seeds as may be of public benefit.

SECT. 4. Whoever sells, offers, or exposes for sale or for distribution, within this state, any agricultural seeds heretofore named in this act, without complying with the requirements of sections one and two, or whoever, with intention to deceive, wrongly marks or labels any lot of agricultural seeds, including

the seeds of cereals, grasses, forage plants, vegetables, garden plants, and white pine trees, but not including those of other trees, shrubs, and ornamental plants, as pertains to their percentage of purity and vitality, shall be punished by a fine not exceeding one hundred dollars for the first offense, and not exceeding two hundred dollars for each subsequent offense.

SECT. 5. The provisions of the four preceding sections shall not apply to any person growing, selling, offering, or exposing for sale cereals and other agricultural seeds for food.

SECT. 6. The secretary of the State Board of Agriculture shall diligently enforce the provisions of sections one and four of this act, and in his discretion prosecute offenses against the same.

THE OBJECT OF THE LAW

The object of this law is in substance the same as that of our pure food and fertilizer laws, namely, to have the buyer know just what he is buying. It is intended to provide a means whereby our farmers and other purchasers of seeds may have reliable information, on the basis of which they may protect themselves against the introduction of noxious weeds and against loss through weak or otherwise worthless seeds; also to provide a reasonable protection for careful, conscientious dealers against negligent, designing, or unscrupulous ones.

It is not the purpose or intent of the law to work a hardship on our seed dealers or to hurt their legitimate business, and neither is it intended to require farmers and other growers to purchase seeds of a better quality than they desire.

LABELING

The law does not apply to the common five and ten-cents packages of garden and flower seeds. Only seeds sold in bulk or in packages of one pound or more are subject to the provisions of the law and are required to be accompanied by a guarantee stating their percentage of purity and vitality.

The guarantee or label may be of any form desired by the seller of the seeds, as a tag, sticker, or direct brand upon the con-

tainer. It must, however, be plainly written or printed, and placed distinctly visible to the purchaser. Each dealer will provide his own labels.

TAKING OF SAMPLES

To secure a fair average sample of a lot or bulk, take small quantities from all of the bags or from different parts of any particular bulk. Mix thoroughly and take out the sample to be inspected. When the seeds are in bags or large bins, the use of a grain sampler is most convenient, since this will insure getting seeds from the top, middle, and bottom alike. Since the report of the analysis is based upon the nature of the sample inspected, it is important that the sample be carefully taken.

SIZE AND AMOUNT OF SAMPLES

The size and amount of the samples necessary for a test will depend upon the size and weight of the seeds. About one half ounce, or a tablespoonful of the smaller grass and vegetable seeds, like alsike and white clover, redtop, lettuce, onions, radish, turnip, etc.; about one ounce or two tablespoonfuls of the larger seeds, like timothy, millet, red clover, alfalfa, rape, etc.; and about four ounces or a small cupful of the cereal grains or vegetable seeds, like oats, barley, corn, peas, beans, etc., should be sent.

SENDING OF SAMPLES

Samples sent to the experiment station for testing should be enclosed in a strong paper envelope and securely fastened. They should not be sent in bottles or glass jars owing to the danger of breakage. When a number of samples are to be sent they should be put up securely in a single package and forwarded either by parcel post or by express. Each sample sent in should be marked as follows:

Name and address of sender.

Date of sending.
Kind of seed.
Brand name (if any), and number of package.
Purity or germination test desired (one or both).
Write a letter stating the number and kind of samples sent so that their receipt may be promptly acknowledged.

Address all samples and communications regarding the same to F. W. Taylor, Experiment Station, Durham, N. H.

TESTS AND EXAMINATIONS

Section two of the law states the provisions under which the tests and analyses shall be made. The secretary of the State Board of Agriculture has appointed F. W. Taylor, agronomist of the experiment station, as his regular agent for making all tests and analyses in this state. The sellers or dealers who desire to base their guarantees upon tests made by themselves or their agents must first secure the approval by the secretary of the State Board of Agriculture of the methods to be used in making the tests, and of the person who is to conduct them.

EXPENSES OF TESTS AND ANALYSES

As no funds are available for the secretary of the state board or for the experiment station to conduct the tests, a nominal charge, sufficient to cover the cost of making them, must be made. The charge for making a purity test will be *seventy-five* cents per sample. For seeds sold in mixtures the charge will be *seventy-five* cents for the sample and ten cents additional for each kind of seed said to be contained therein. The charge for making a germination test will be *twenty-five* cents per sample. Seeds will be tested for any resident of the state, whether a dealer or not, at the above rates.

OTHER INFORMATION

Other publications on the subject of seed testing are as follows:

Circulars Nos. 34 and 35, U. S. Department of Agriculture, Washington, D. C.

Bulletin No. S.1, Canadian Department of Agriculture, Ottawa, Can.

Bulletin No. 152, Maine Experiment Station, Orono, Me.

Bulletin No. 146, Vermont Experiment Station, Burlington, Vt.

Bulletin No. 260, Michigan Experiment Station, East Lansing, Mich.

Circular No. 4, Wisconsin Experiment Station, Madison, Wis.

Bulletin No. 115, Iowa Experiment Station, Ames, Iowa.

Bulletin No. 110, Nebraska Experiment Station, Lincoln, Neb.

Seed Bulletin No. 1, North Dakota Experiment Station, Fargo, N. D.

Bulletin No. 83, Bureau of Plant Industry, Washington, D. C.

Bulletin No. 267, Michigan Experiment Station, East Lansing, Mich.

Bulletin No. 333, New York Experiment Station, Geneva, N. Y.

Bulletin No. 148, Kentucky Experiment Station, Lexington, Ky.

Bulletin No. 111, Bureau of Plant Industry, Washington, D. C.

Farmers' Bulletin No. 260, Division of Publications, Washington, D. C.

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